FIG. 4 is a perspective view, partially broken away, of the magazine holder for showing the inner structure thereof;

FIG. 5 is a perspective view of a magazine;

FIG. 6 is a perspective view of the bottom portion of the magazine holder;

FIGS. 7A to 7E are illustrations of the disk player system provided with the magazine changing unit for explaining the operation thereof, respectively;

FIG. 8 is a brief illustration of a position detector;

FIG. 9 is a perspective view showing a schematic structure of a disk player system provided with a magazine changing unit according to another embodiment of this invention; and

FIG. 10 is a perspective view of a disk player of conventional structure.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

For a better understanding of this invention, a disk player of conventional type will be described hereunder with reference to FIG. 10.

A conventional disk player D_o comprises a casing **100** in which a support frame **101** is disposed. The support frame **101** is provided with a portion for accommodating a magazine. A magazine **103** is inserted into the magazine accommodating member through a magazine insertion port **102** formed in the front surface of the casing and supported therein. The magazine **103** is provided with a plurality of vertically stacked trays **104** in each of which a compact disk **105** is supported. The trays **104** are arranged to be freely taken in or out with respect to the magazine in a manner rotatable about a pin **106** disposed at the front corner portion of the magazine. Each of the tray **104** has a side end on which is formed a projection **104***a* which is pushed outward by a pushing member, not shown, to thereby position the compact disk **105** on the tray **104** to a read out position in a state where the disk is supported to be rotatable by a compact disk supporting member, not shown. The information in the disk is read out by laser beams by means of a reading head, not shown.

The supporting frame **101** of the disk player described above is supported at the bottom portion thereof by vibration proof rubbers **107**, **107**, --- , **107** in floating manner or by spring means **108**, **108**, --- **108** also in floating manner.

The magazine **103** is taken in or out from the predetermined position by a magazine transfer mechanism **109**. An eject switch **110** is located at the front surface of the casing and the eject switch **110** activates a discharge mechanism, not shown, for discharging outward the magazine in the predetermined position.

The conventional disk player of the character described above has defects or drawbacks as described hereinbefore, when the disk player is accommodated in a vehicle such as bus or motorcar or even in a case where the disk player is placed other than in the vehicle.

This invention was conceived to substantially eliminate the defects or drawbacks encountered in the conventional disk player of the type described above and will be described in detail hereunder with reference to FIGS. **1** to **9**.

Referring to FIG. **1**, a disk player system D_1 provided with a magazine changing unit according to one preferred embodiment of this invention comprises a disk player body D_o of the character similar to the disk player of the conventional type and a magazine changing unit C_o operative connected to the disk player body D_o. The disk player body D_o is provided with a magazine accommodating member **140** in which is accommodated a magazine **103** for accommodating a plurality of compact disks **105** in a stacked manner on a tray **104** so that the compact disks **105** can be taken in or out from the magazine **103**.

The disk player body D_o has a front surface in which a disk insertion port **102** is formed so that a desired magazine **103** accommodated in the magazine changing unit C_o is inserted into the disk player body through the disk insertion port **102**.

The magazine changing unit C_o comprises a casing **1** in which a table **2** is disposed to be vertically movable, and on the table **2**, a magazine holder **3** is mounted to a predetermined position. A plurality of magazines **103** are stacked vertically in the magazine holder **3** so as to be taken in or out from the magazine holder **3**.

The magazine holder **3** has a rear surface, a part of which is opened as an opening **3***a*, against which is located a movable member of a magazine transfer mechanism **4** for pushing out the magazine accommodated in the magazine holder **3**. A detector **5** for detecting the vertical height of the table **2** is disposed at a rear portion of the table **2**, and the movement of the table **2** stops at a time when the desired magazine **103** in the magazine holder **3** is transferred to a position opposing to the magazine insertion port **102**.

An eject switch **110** is attached to the front surface of the disk player body D_o and the eject switch **110** is operated by an eject switch operating mechanism **6** mounted on the side wall of the casing **1**.

The disc player system D_1 provided with the magazine changing unit C_o according to this invention is controlled by a control board **7**, which may be set near a driver's seat in the case where the disk player system D_1 is accommodated in a vehicle.

The magazine changing unit C_o of the disk player system D_1 according to this invention will be described hereunder in detail with reference to FIG. **2**. Referring to FIG. **2**, the table **2** is vertically moved by a table elevating mechanism **20**, which is provided with feed screws **21**, **22** and **23** for elevating the table **2** at three portions thereof supported.

A driving mechanism **24** is mounted on an upper portion of the feed screw **22** and the driving mechanism **24** comprises an electric motor **25**, a drive gear **26** for the motor **25**, a first intermediate gear **27** meshed with the drive gear **26**, a second intermediate gear **28** formed integrally with the first intermediate gear **27**, and a follower gear **29** secured to the threaded body of the feed screw **22** and meshed with the second intermediate gear **28**. The feed screw **22** is provided with an uppermost portion supported by a supporting frame **30** which is rotatable and with a lower end to which a driving pulley **31** is secured. A supporting ear-like member **32** projecting from the table **2** is screw-engaged with the intermediate threaded portion of the feed screw **22**, whereby the table **2** is vertically moved by the rotation of the feed screw **22**.

The feed screw **21** is screw-engaged with a supporting ear-like member **33** secured to the table **2**, and a guide bar **34** is slidably engaged with the supporting ear-like member **33** in a fashion parallel to the feed screw **21**. The upper ends of the feed screw **21** and the guide bar **34**, both extend vertically in parallel, and are supported to be rotatable by a supporting frame **35**, and